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ART UNIT	PAPER NUMBER
2652	8

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/611,597	KOBAYASHI ET AL.	
	Examiner	Art Unit	
	Michael V Battaglia	2652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 July 2000* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☒ Claim(s) *1-28* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 July 2000* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *18* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because Fig. 2 does not include the reference sign "SD" mentioned on page 8, line 20 of the description. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

4. The disclosure is objected to because of the following informalities:

a. On page 8, line 12, the examiner suggests inserting -a- in between "becomes" and "predetermined".

b. On page 8, line 14, the examiner suggests inserting -a- in between "by" and "gas".

c. On page 8, line 16, the examiner suggests inserting -an- in between "is" and "AOD".

d. On page 8, line 22, the examiner suggests replacing "L1" with -L2-.

e. On page 12, line 17, the examiner suggests replacing "feels strange feeling" -would feel skeptical- or the like.

f. Because "L1" and "L2" are already used to represent signals in the disk original exposure apparatus of Fig. 2, the examiner suggests changing "L1" and "L2" that represent lengths of defects on page 12, line 22 and page 13, lines 1 and 4 to -l1- and -l2-, respectively.

g. On page 13, line 19, the examiner suggests replacing the first "to" with -too-.

h. On page 13, line 22, the examiner suggests inserting -a- in between "to" and "CD-ROM".

i. On page 14, line 1, the examiner suggests inserting -a- or -the- in between "forming" and "CD-ROM".

j. On page 14, line 1, the examiner suggests inserting -a- after "of" and before "CD-ROM" on line 2.

k. On page 14, line 3, the examiner suggests inserting -a- or -the- in between "of" and "CD-ROM".

l. On page 15, line 4, the examiner suggests inserting -a- in between "to" and "PLL".

Appropriate correction is required.

Claim Objections

5. Claims 1-28 are objected to because of the following informalities:

a. On lines 21-22 of claim 1, the examiner suggests replacing "main data" with -sub-data-.

b. On line 22 of claim 1, line 18 of claim 10, line 8 of claim 11, line 22 of claim 20, and line 18 of claim 28, the examiner suggests replacing "can" with -will-.

c. On line 2 of claim 4 the examiner suggests replacing "comprising" with

-comprises-.

d. On line 4 of claim 20, the examiner suggests inserting an -a- in front of "laser" and i front of "return".

e. On line 8 of claims 20 and 28, the examiner suggests inserting -as- in between "signal" and "a".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 20-28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Line 11 of claim 20 and line 7 of claim 28 refer to "dual-identifying the reproduced signal" but "dual-identifying" is not explained in the specification.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the

invention. The claims are generally narrative and indefinite, failing to conform with current U.S. practice.

a. In regard to claim 1, the meaning of lines 20-22 is unclear. The examiner will interpret these lines as meaning that the predetermined minimum length of the pit row or mark row to which one bit of the sub-data is allocated is long enough that a local change to the pit row or mark row will not affect the correct reproduction of the sub-data.

b. In regard to claim 3, the examiner is unable to determine what the applicant wishes to claim.

A search has been made to find the most pertinent art, but no art rejection will be made in this office action regarding claim 3, due to the speculation required to interpret the claims because of their indefiniteness under 35 U.S.C. 112, 2nd paragraph as noted above (see *In re Steele*, 134 USPQ 292).

c. In regard to claim 10, the meaning of lines 16-19 is unclear. The examiner will interpret these lines as meaning that the predetermined minimum length of the pit row or mark row to which one bit of the sub-data is allocated is long enough that a defect in the pit row or mark row, having a size small enough that correct reproduction of main data is not affected, will also not affect correct reproduction of the sub-data.

d. In regard to claim 11, the meaning of lines 6-8 is unclear. The examiner will interpret these lines as meaning that the predetermined minimum length of the pit row or mark row to which one bit of the sub-data is allocated is long enough that a defect in the pit row or mark row, having a size small enough that correct reproduction of main data is not affected, will also not affect correct reproduction of the sub-data.

e. In regard to claim 13, the examiner is unable to determine what the applicant wishes to claim.

A search has been made to find the most pertinent art, but no art rejection will be made in this office action regarding claim 13, due to the speculation required to interpret the claims because of their indefiniteness under 35 U.S.C. 112, 2nd paragraph as noted above (see *In re Steele*, 134 USPQ 292).

f. In regard to claim 20, the meaning of "dual-identifying" on line 11 and the meaning of lines 18-22 are unclear. The examiner will interpret lines 10-11 of the claim as if "by dual-identifying" were replaced with -from-. The examiner will interpret lines 18-22 as meaning that the predetermined minimum length of the pit row or mark row to which one bit of the sub-data is allocated is long enough that a defect in the pit row or mark row, having a size small enough that correct reproduction of main data is not affected, will also not affect correct decoding of the sub-data.

g. In regard to claim 22, the examiner is unable to determine what the applicant wishes to claim.

A search has been made to find the most pertinent art, but no art rejection will be made in this office action regarding claim 13, due to the speculation required to interpret the claims because of their indefiniteness under 35 U.S.C. 112, 2nd paragraph as noted above (see *In re Steele*, 134 USPQ 292).

h. In regard to claim 28, the meaning of lines 15-19 is unclear. The examiner will interpret these lines as meaning that the predetermined minimum length of the pit row or mark row to which one bit of the sub-data is allocated is long enough that a defect in the pit

row or mark row, having a size small enough that correct reproduction of main data is not affected, will also not affect correct reproduction of the sub-data.

i. In regard to claim 28, the meaning of "dual-identifying" on line 11 is unclear. The examiner will interpret lines 7-8 of the claim as if "by dual-identifying" were replaced with -from-.

8. Claims 11-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 11-19 claim an information recording medium yet no limitations are placed the information recording medium itself. If the applicant wishes to claim protection on an information recording medium that results from a process of recording, then the examiner strongly suggests using a product by process claim.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Yamamoto et al (US 6,483,792) (hereafter Yamamoto 792).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

In regard to claim 1, Yamamoto 792 discloses an information recording apparatus in which in an information recording apparatus for recording main data by forming a pit row or a mark row to an information recording medium by irradiating the information recording medium with a beam for recording, said information recording apparatus comprising: first modulating signal generating means for generating a first modulating signal in correspondence with the pit row or the mark row (Fig. 1, element 16); second modulating means for generating a second modulating signal by modulating the first modulating signal by sub-data such that a pit or a mark of the pit row or the mark row is locally changed in accordance with a logical level of the sub-data (Fig. 1, elements 18-19); and beam modulating means for modulating the beam for recording by the second modulating signal (Fig. 1, element 8); wherein the second modulating means generates the second modulating signal by allocating one bit of the sub-data to the pit row or the mark row having a predetermined length or more with regard to a defect having a size by which at least the main data can correctly be reproduced such that the main data can correctly be reproduced (Fig. 6, element G1 and Col. 2, lines 22-29).

In regard to claim 10, Yamamoto 792 discloses an information recording method, wherein in an information recording method for recording main data by forming a pit row or a mark row on an information recording medium by irradiating the information recording medium with a

beam for recording, said information recording method comprising: a step of generating a second modulating signal by modulating a first modulating signal in correspondence with a pit row or a mark row by sub-data in accordance with a logical level of the sub-data such that a pit or a mark of the pit row or the mark row is locally changed (Fig. 1, elements 18-19); and a step of modulating the beam for recording by the second modulating signal and irradiating the information recording medium with the modulated beam for recording (Fig. 1, element 8), wherein the second modulating signal is generated by allocating one bit of the sub-data to the pit row or the mark row having a predetermined length or more with regard to a defect having a size by which at least the main data can be reproduced correctly such that the sub-data can be reproduced correctly (Fig. 6, element G1 and Col. 2, lines 22-29).

10. Claims 11-12, 14-15, and 18-21, 23-24, and 26-28 are rejected under 35 U.S.C. 102(a) as being anticipated by Fujiki (EP 0 980 069 A2).

In regard to claim 11, Fujiki discloses an information recording medium, wherein in an information recording medium recorded with main data by a pit row or a mark row (Fig. 2E), sub-data is recorded by a local change of a pit or a mark of the pit row or the mark row and one bit of the sub-data is allocated to the bit row or the mark row having a predetermined length with regard to a defect having a length by which the main data can be reproduced correctly such that the sub-data can be correctly reproduced (Fig. 2E, Paragraphs 31-32, and Paragraphs 80-81).

In regard to claim 12, Fujiki discloses discloses that one bit of the sub-data is allocated to a length of 1mm or more (Paragraph 31).

In regard to claim 14, Fujiki discloses that the local change is formed in accordance with a disturbing signal disturbing the sub-data by a binary coefficient row (Fig. 2E).

In regard to claim 15, Fujiki discloses that the binary coefficient row is a binary coefficient row of M series (Fig. 2E).

In regard to claim 18, Fujiki discloses that the binary coefficient row is initialized at a constant period with the pit row or the mark row as a reference (Fig. 3, element 18 and Paragraph 33).

In regard to claim 19, Fujiki discloses that the main data is ciphered and recorded and the sub-data is data necessary for deciphering the main data (Paragraph 4).

In regard to claim 20, Fujiki discloses an information reproducing apparatus, wherein in an information reproducing apparatus for irradiating an information recording medium recorded with main data by a pit row or a mark row with laser beam and receiving a return beam to thereby reproduce the main data, said information reproducing apparatus comprising: reproduced signal generating means for receiving the return beam and generating a reproduced signal as a signal level which is changed in accordance with the pit row or the mark row (Fig. 1, element 3); main decoding means for decoding the main data from the reproduced signal (Fig. 1, element 6 and 8); sampling means for sampling the reproduced signal and outputting a sampling signal (Fig. 3, element 15); and sub decoding means for reproducing sub-data recorded by a local change in a pit or a mark of the pit row or the mark row by repeating to integrate the sampling signal for a predetermined time period (Fig. 3, element 21 and Fig. 6, elements 36-37); wherein the sub decoding means is set with an integrating time period in correspondence with one bit of the sub-data as a time period by which with regard to a defect having a size by which at least the main data can correctly be reproduced, the sub-data can be decoded correctly (Fig. 3, element 13 and Fig. 6, element PT).

In regard to claim 21, Fujiki discloses that the integrating time period in correspondence with the one bit of the sub-data is a time period in correspondence with a length of 1mm or more of the pit row or the mark row (Paragraph 31 and Paragraph 47).

In regard to claim 23, Fujiki discloses a binary coefficient row generating means for generating a binary coefficient row with the reproduced signal as a reference (Fig. 3, elements 19-20, BD, and DZ); wherein the sub decoding means integrates the sampling signal in accordance with the binary coefficient row (Fig. 6, elements DZ and 36-37).

In regard to claim 24, Fujiki discloses that the binary coefficient row is a binary coefficient row of M series (Fig. 3, element 19).

In regard to claim 26, Fujiki discloses that the binary coefficient row generating means initializes the binary coefficient row at a constant period with the reproduced signal as a reference (Fig. 3, elements 17-18, BD, and FCLR (mistakenly typed as FCLA)). The examiner notes that the BD signal is the reproduced signal after it has been binary coded (see Fig. 1).

In regard to claim 27, Fujiki discloses that the main decoding means deciphers the main data based on the sub-data (Paragraph 4).

In regard to claim 28, Fujiki discloses an information reproducing method, wherein in an information reproducing method for irradiating an information recording medium recorded with main data by a pit row or a mark row with laser beam and receiving return beam to thereby reproduce the main data, said information reproducing method comprising: a step of decoding the main data from a reproduced signal as a signal level of which is changed in accordance with the pit row or the mark row provided by receiving the return beam (Fig. 1, elements 3, 6, and 8); and a step of reproducing sub-data recorded by a local change in a pit or a mark of the pit row or the mark row by repeating to integrate a sampling signal provided by sampling the reproduced signal

for a predetermined time period (Fig. 3, elements 15 and 21 and Fig. 6, elements 36-37); wherein an integrating time period in correspondence with one bit of the sub-data is set to a time period by which with regard to a defect having a size by which at least the main data can be reproduced correctly, the sub-data can correctly be reproduced (Figs. 3 and 6, elements 13 and PT).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-2 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al (US 6,078,552) (hereafter Yamamoto 552) in view of Fujiki.

In regard to claim 1, Yamamoto 552, in the information recording apparatus with copy protection art, discloses an information recording apparatus in which in an information recording apparatus for recording main data by forming a pit row or a mark row to an information recording medium by irradiating the information recording medium with a beam for recording, said information recording apparatus comprising: first modulating signal generating means for generating a first modulating signal in correspondence with the pit row or the mark row (Fig. 1, element 14); second modulating means for generating a second modulating signal by modulating the first modulating signal by sub-data such that a pit or a mark of the pit row or the mark row is locally changed in accordance with a logical level of the sub-data (Fig. 1, elements 8A, 12-13, 15A, and 15B); and beam modulating means for modulating the beam for recording by the second

modulating signal (Fig. 1, element 8B); wherein the second modulating means generates the second modulating signal by allocating one bit of the sub-data to pit rows and/or the mark rows so that at least the main data can correctly be reproduced such that the main data can correctly be reproduced (Fig. 15, Bar Code Shaped Pattern and Col. 5, lines 22-32). The examiner notes that the bar code shaped pattern or disc discrimination code of Yamamoto *552* is interpreted as sub-data. Yamamoto *552* does not disclose allocating one bit of the sub-data to the pit row or the mark row having a predetermined length or more with regard to a defect having a size by which at least the main data can correctly be reproduced such that the main data can correctly be reproduced.

Fujiki discloses allocating one bit of the sub-data to the pit row or the mark row having a predetermined length or more with regard to a defect having a size by which at least the main data can correctly be reproduced such that the main data can correctly be reproduced (Fig. 2E, Paragraphs 31-32, and Paragraphs 80-81).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to allocate one bit of the sub-data to the pit row or the mark row having a predetermined length or more with regard to a defect having a size by which at least the main data can correctly be reproduced such that the main data can correctly be reproduced in the information recording apparatus of Yamamoto *552* as suggested by Fujiki, the motivation being to reproduce sub-data while hardly exerting an influence on the reproduction of main data and to reproduce sub-data using a small-scale simple circuit (Fujiki Paragraphs 80-81).

In regard to claim 2, Yamamoto *552* discloses a bit of sub-data allocated to a length of 1mm or longer (Fig. 15).

In regard to claim 9, Yamamoto *552* does not disclose that the first modulating means generates the first modulating signal by ciphering the main data and that sub-data is data necessary for deciphering the main data.

Fujiki, in the information recording apparatus with copy protection art, discloses that a first modulating means generates a first modulating signal by ciphering main data and that sub-data is data necessary for deciphering the main data (Paragraph 4).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a first modulating means of Yamamoto *552* generate a first modulating signal by ciphering main data and to have sub-data of Yamamoto *552* be data that is necessary for deciphering the main data as suggested by Fujiki, the motivation being to provide improved copy right protection by ciphering the main data and to be able to decipher the main data by providing a key in the sub-data.

12. Claims 4-5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto *552* in view of Fujiki in further view of Matsui (US 5,661,707).

In regard to claim 4, Yamamoto *552* in view of Fujiki discloses an information recording apparatus according to claim 1. Yamamoto *552* discloses that the second modulating means comprises: a binary coefficient row generating means for generating a binary coefficient row (Fig. 6, element 22); a disturbing means for generating a disturbing signal by disturbing the sub-data by the binary coefficient row (Fig. 6, element 23); and a signal modulating means for generating the second modulating signal by modulating the first modulating signal by the disturbing signal (Fig. 1, elements 13, 15A, and 15B). Yamamoto *552* in view of Fujiki does not disclose that the binary coefficient row generating means generates a binary coefficient row using the first modulating signal as a reference.

Matsui, in the information recording apparatus [illegible] discloses a binary coefficient row generating means for generating a binary coefficient row with the first modulating signal as a reference (Fig. 1, element 11) to remove correlation between tracks (Col. 2, lines 33-38), thereby providing reduced cross track interference and hence improved reproduction of recorded information. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the binary coefficient row generating means of Yamamoto *552* generates a binary coefficient row using the first modulating signal as a reference as suggested by Matsui, the motivation being to remove correlation between tracks, thereby providing reduced cross track interference and hence improved reproduction of recorded information.

In regard to claim *5*, Yamamoto *552* discloses that the binary coefficient row is a binary coefficient row of M series (Fig. 6, element 22).

In regard to claim 8, Yamamoto *552* discloses that binary coefficient row generating means initializes the binary coefficient row at a constant period (Fig. 6, elements 18-19). Matsui discloses that the binary coefficient row generating means is initialized with the first modulating signal as a reference (Col. 3, line 65 - Col. 4, line 6).

Citation of Relevant Prior Art

13. Moriya et al (US *5,867,475*) discloses using an M-sequence generator to encode and decode data written to and read from an information storage medium (Figs. 7 and 12). Ozaki et al (US *5,572,507*) discloses modulating a modulated signal with sub-data by wobbling the modulated data according to the sub-data (Fig. 16). Kobayashi (JP 411,126,426 A) discloses recording an identification code on a disc without spoiling main data (Abstract). Kobayashi et al (JP 11185257 A) discloses first and second modulating means (Abstract).

Allowable Subject Matter

14. Claim 6-7, 16-17, and 25 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

In regard to claims 6-7, none of the references alone or in combination disclose or suggest a disturbing means that generates a first and a second one of disturbing signals by disturbing a first and a second one of the bit rows by the sub-data by the first and the second binary coefficient rows respectively and generates the disturbing signal by multiplexing the first and the second ones of disturbing signals.

In regard to claims 16-17, none of the references alone or in combination disclose or suggest generating a first and a second one of disturbing signals by disturbing a first and a second one of the bit rows by the sub-data by the first and the second binary coefficient rows respectively and generating the disturbing signal by multiplexing the first and the second ones of disturbing signals.

In regard to claim 25, none of the references alone or in combination disclose or suggest a sub decoding means that decodes sub-data by integrating a sampling signal in accordance with at least a first and a second binary coefficient row generated by a binary coefficient row generating means.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael V Battaglia whose telephone number is (703) 305-4534. The examiner can normally be reached on 5-4/9 Plan with 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Michael Battaglia

W. R. YOUNG
PRIMARY EXAMINER